

APR 09 2007

PATENT APPLN. NO. 10/507,423
RESPONSE UNDER 37 C.F.R. §1.111

PATENT
NON-FINAL

REMARKS

The specification has been amended to delete reference to specific claims, to add headings and to identify information relating to the international and priority applications of the present application. Removal of the objections to the specification is believed to be in order and is respectfully requested.

Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, for not clearly reciting "the adjusting step(s)". Although the rejection is applied to claims 1-19, it appears to be applicable only to claim 1 and the claims dependent thereon, i.e., claims 2-16. More specifically, the Office notes that claim 1 recites only a step of classifying wood material by logs and, therefore, it is unclear whether the pulp is made using the classified logs or is used to adjust pulp made from other fibers. The Office also notes that since claim 1 does not recite any defibering steps it reads on the use of the classified logs as a filler material. Finally, the Office states that the claim is indefinite for failing to identify from which part of the tree the rings are counted.

In order to overcome the rejection, claim 1 has been canceled and claims 2 to 16 have been amended to recite a dependency on claim 17.

Removal of the 35 U.S.C. 112, second paragraph, rejection of the claim is believed to be in order and is respectfully requested.

Prior to discussing the prior art rejections, applicants would like to note that it is the basic finding in the present invention that the number of annual rings should be measured by every log (or group of logs). In this way it is possible to divide every log into a category, for example, <20 annual rings, 21 to 30 annual rings, 31 to 40 annual rings and >40 annual rings. By using this method, it is possible to find the same wood material fiber properties which are most suitable for a specific application. Long-fibered wood material imparts strength to paper prepared from it and short-fibered material imparts smoothness and printing quality to paper. Remarkably, it has been found that long and short fibers are also found in significant amounts in top as well as butt parts of trees. This finding results in improved economic use of wood material. As fiber properties can be affected after the felling of a tree and up until after measurement of fibrous properties, the method of the present application is advantageous in terms of economy and production.

Claims 1 and 17-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lundqvist, SE 9702513 A, (Derwent Abstract) (hereinafter: "Lundqvist").

Initially, applicants note that this rejection is moot as it applies to claim 1 in view of the cancellation of the claim.

Lundqvist discloses that wood quality is assessed from a graphic image compiled from ring measurement data which classifies wood fibers according to age and coarseness and, more specifically, discloses a method for analyzing wood quality based on wood fiber properties. In the method, wood is classified according to the proportion of respective fibers present. Wood is first divided into regions which contain fibers with different levels of maturity and wood fibers with the same level of maturity are further divided into fibers of different coarseness. From such disclosure, the Office states that it can be inferred that a pulp can be made using such data.

Applicants note that the meaning of "wood" in Lundqvist is unclear and that the disclosure does not refer to wood material "by log or group of logs" as in the method of the present application. Lundqvist appears to be studying wood material from a group of trees. According to the present application, the number of annual

rings is determined for each cut part of a harvested tree or for a group of cut parts. Applicants note that the age of a tree is not the same as the age of a log.

Applicants also note that the Office has not provided any evidence or reasoning to support its position that it can be "inferred" from the disclosure of Lundqvist that a pulp can be made using the classification data. Notwithstanding this deficiency in the rejection, Lundqvist clearly does not disclose the steps recited in claims 17 and 18 and thus cannot support anticipation of the claims under 35 U.S.C. 102(b).

Furthermore, the Office's position that it can be inferred that a pulp can be made using the data of Lundqvist is insufficient to support a case of *prima facie* obviousness of the methods recited in claims 1, 17 and 18. Such inference is not a suggestion or motive to a person of ordinary skill in the art to modify the process of Lundqvist to include the steps of the methods recited in claims 17 and 18 of the present application. Specifically, a person of ordinary skill in the art would not have interpreted Lundqvist as disclosing or suggesting using a wood material, which is classified by log or group of logs according to the number of annual rings into categories that represent a certain fibre

dimension property method, to adjust the fibrous properties of pulp to a preselected level.

Removal of the 35 U.S.C. § 102 and alternative 35 U.S.C. § 103(a) rejection of the claims of the present application is in order and is respectfully solicited.

Claims 1-13 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quick et al. (U.S. Patent No. 6,231,721) (hereinafter: "Quick") in view of Lundqvist, cited above. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quick and Lundqvist as applied to claim 1 above, and further in view of Rydholm (Sven A. Rydholm, Pulping Processes, Interscience Publishers, Sept. 1967).

The Office cites Quick as disclosing a method as recited in claim 1, and claims 17 and 18, except that Quick does not disclose classifying the wood by log. Lundqvist is identified as classifying wood material by log. On pages 5, 6 and 7 of the Action the Office explains how the disclosures of Quick and/or Lundqvist meet the limitations of the dependent claims. Rydholm is cited as teaching the limitations of claims 14-16.

Applicants respectfully submit that Quick, alone or in combination with Lundqvist and/or Rydholm, fails to provide the

requisite motive to modify its teachings so as to obtain the methods recited in claims 17 and 18 of the present application.

Quick, as has been noted previously, discloses only that a fibre coarseness of less than 22 mg/100 m (the invention of Quick is a densifiable wood pulp product which includes fibers having a fiber coarseness less than about 22 mg/100 m) could be reached by using treetops and wood from thinning. The wood was roughly divided into grown wood and young wood only and it was considered that the desired fibre coarseness would be reached in this way by taking some young wood or grown wood or both in certain proportions.

More particularly, Quick studied 7.5 year old tree tops, 30 year old trees without tops and 15 year thinnings (col. 1, lines 43 to 59). The fiber lengths and coarseness were as follows:

	Fiber length (mm)	Fiber coarseness (mg/100 m)
7.5 year old tree tops	2.1	18
30 year old trees without tops	2.7	24
15 year thinnings	1.9	22

However, Quick neither examined the number of the trees' annual rings by log or groups of logs, nor divided the wood material into categories according to the number of annual rings.

In the present invention, on the other hand, it has been shown that both tops and butts of trees as well as regeneration or thinning of trees can be classified by log or groups of logs into several categories according to the number of annual rings, each category giving a different fiber coarseness and fiber length.

In example 5 of the specification of the present application, the top parts of the trees felled in connection with the thinning of spruce were classified according to the number of annual rings into categories of <20 annual rings, 21 to 30 annual rings, 31 to 40 annual rings and >40 annual rings. The fiber length and coarseness were the following:

Annual rings	Fiber length* (mm)	Fiber coarseness (mg/m)
<20	2.09 (1.99-2.19**)	0.150-0.162
21 to 30	2.35 (2.23-2.46**)	0.164-0.177
31 to 40	2.43 (2.36-2.50**)	0.172-0.179
>40	2.51 (2.43-2.60**)	0.174-0.185

* weighted by length

** standard deviation

In example 7, the butt parts of the trees felled in connection with the thinning of spruce were classified by log according to the number of annual rings into the categories of <20 annual rings, 21 to 30 annual rings, 31 to 40 annual rings and >40 annual rings. The fiber length and coarseness were the following:

Annual rings	Fiber length* (mm)	Fiber coarseness (mg/m)
<20	2.06 (1.97-2.16**)	0.149-0.160
21 to 30	2.37 (2.28-2.46**)	0.167-0.176
31 to 40	2.51 (2.45-2.57**)	0.176-0.183
>40	2.60 (2.55-2.64**)	0.182-0.188

* weighted by length

** standard deviation

A determination of fiber length and fiber coarseness according to the number of annual rings as in the present invention bears no direct correlation with a determination of fiber length and fiber coarseness in 7.5 year old tree tops, 30 year old trees without tops, and 15 year thinnings (and the Office has not explained how it does).

Lundquist does not overcome the deficiencies of Quick because, first, Lundquist does not disclose classifying wood material by log. Lundquist, as has been explained above, classified "wood" ("wood" is not necessarily "logs") according to the proportion of

respective fibers present. Second, in Lundquist, "wood" is first divided into regions which contain fibers with different levels of maturity and wood fibers with the same level of maturity are further divided into fibers of different coarseness. Dividing wood into regions which contain fibers with different levels of maturity is not classifying logs according to the number of annual rings as in the present invention.

Rydholm has been applied only to claims 14-16 and fails to overcome the deficiencies of Quick and Lundquist as explained above.

Removal of the rejection of the claims 1-13 and 17-19 under 35 U.S.C. 103(a) over Quick in view of Lundqvist and the rejection of claims 14-16 under 35 U.S.C. 103(a) over Quick and Lundqvist in view of Rydholm is believed to be in order and is respectfully requested.

The foregoing is believed to be a complete and proper response to the Office Action dated November 8, 2006, and is believed to place this application in condition for allowance. If, however, minor issues remain that can be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number indicated below.

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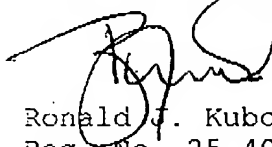
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In the event that this paper is not considered to be timely filed, applicants hereby petition for an appropriate extension of time. The fee for any such extension may be charged to our Deposit Account No. 111833.

In the event any additional fees are required, please also charge our Deposit Account No. 111833.

Respectfully submitted,

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